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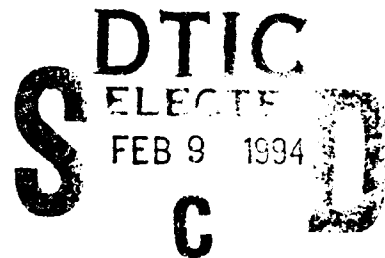
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S12/284

MINUTES



**ACCREDITED STANDARDS COMMITTEE ON
NOISE, S12**

**U.S. TAG FOR ISO/TC 43/SC1 NOISE
and
ISO/TC 94/SC12 HEARING PROTECTION**

Denver, Colorado

7 October 1993

*Approved for public release
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S12/284

MINUTES OF S12 MEETING HELD IN DENVER, COLORADO, ON 7 OCTOBER 1993

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S12/284

MINUTES

ACCREDITED STANDARDS COMMITTEE ON NOISE, S12

U.S. TAG FOR ISO/TC 43/SC1 NOISE

-and-

ISO/TC 94/SC12 HEARING PROTECTION

Denver, Colorado

7 October 1993

The meeting was called to order by Mr. D.L. Johnson, Chair S12, at 8:55 A.M. in the Savoy Room, the Radisson Hotel, Denver, Colorado.

ORGANIZATIONAL MEMBERS PRESENT

Callahan, R.	Power Tool Institute (PTI)
Francis, T.R.	National Hearing Conservation Assoc. (NHCA)
Brenig, A.	ASA Standards Manager
Burkard, R.F.	American Speech-Language-Hearing Assoc. (ASLHA)
Galloway, W.J.	ASA Alternate Representative
Goodwin, R.	Acoustical Systems
Johnson, D.L.	Chair S12; ASA Representative S12
McKinley, R.	U.S. Air Force
Monk, W.	CAOHC
Schomer, P.D.	U.S. Army Construction Engineering Research Laboratory (U.S. CERL); Vice Chair S12; Vice Chair, U.S. TAG, ISO/TC 43/SC 1
Vendittis, D.	Naval Surface Warfare Center (NSWC)

INDIVIDUAL EXPERTS PRESENT

Eldred, K.M.	Past Chair ASACOS
Guernsey, R.M.	Chair S12/L-8
Maling, C.C.	ESSS
Marsh, A.H.	Dytec Engineering
von Gierke, H.E.	U.S. TAG Chair ISO/TC 43 and ISO/TC 43/SC 1
White, M.J.	Chair, S12/WG31
Young, R.W.	Consultant

OTHERS PRESENT

Berger, E.H.	Chair, S12/WG11; U.S. TAG Chair ISO/TC94/SC 12
Daigle, G.	Chair, S12/WG27
Embleton, T.F.W.	Chair, ASACOS
Finegold, L.	Armstrong Laboratory USAF Ohio
Luz, G.	U.S. Army Environmental Hygiene Agency
Nixon, C.	Chair, S12/WG10
Pope, J.	Pope Engineering
Royster, J.D.	Chair S12/WG12; Chair S3
Shotland, L.	National Institute of Health (NIH)
Sutherland, L.	Chair S12/WG9

1. Approval of the Minutes of the Ottawa, Canada meeting held 20 May (S12/278)

Upon motion made and seconded, it was

VOTED to approve the Minutes of the S12 meeting (S12/278) held
on 20 May 1993, as circulated.

2. Organization

- a) A list of current working groups is attached (see ATTACHMENT A).
- b) New organizational members of S12 - None to date
- c) New working groups - None to date.
- d) Personnel changes - None to date.
- e) A summary of activities is given in ATTACHMENT B.

3. Standards approved by ANSI in 1992/1993 and published (or being published) by ASA

- ANSI S12.9/Part 2-1992 Quantities and Procedures for Description and Measurement of Outdoor Environmental Sound.
- ANSI S12.12-1992 Engineering Method for the Determination of Sound Power Levels of Noise Sources Using Sound Intensity
- ANSI S12.14-1992 Methods for the Field Measurement of the Sound Output of Audible Public Warning Devices Installed at Fixed Locations Outdoors
- ANSI S12.15-1992 Acoustics - Portable Electric Power Tools, Stationary and Fixed Electric Power Tools, and Gardening Appliances. Measurement of Sound Emitted.
- ANSI S12.16-1992 Guidelines for the Specification of Noise of New Machinery.

3. Standards approved by ANSI in 1992/1993 and published by ASA, (continued)

Standards published by ASA can be ordered from the following address:

Professional Book Distributors (PBD)
ASA Standards Distribution Center
1650 Bluegrass Lakes Parkway
Alpharetta, Georgia 30239

Telephone: (404) 442-8633
Telefax: (404) 442-9742

NOTE: 20% discount on list price is available to ASA individual and sustaining members for all standards published by ASA.

4. Organizational matters and reports on working groups, including reports on letter ballots and international matters

a) S12 Advisory Planning Committee to S12 - P.D. Schomer, Chair

Mr. Schomer presented a report (see ATTACHMENT C). (The current list of S12 standards is attached - ATTACHMENT D.)

Mr. Schomer has noted that we are processing some sixty to seventy (60-70) documents per year from TC 43/SC1 alone.

b) S12/WG2 Terminology, Abbreviations and Symbols - W.J. Galloway, Chair

At the last meeting, Mr. Galloway said he would take the existing draft of the standard and prepare it for ballot within one or two months. Accordingly, a draft of the revision of ANSI S1.1-1960 was sent to S1 ballot (and to S2, S3, and S12 for information and comment). The ballot was submitted to S12, as S12/268, on 26 March 1993 and was closed on 7 May 1993, with results as in the last Minutes (S12/278).

A revised document was prepared and sent to 30 day review (30 day Review S1.1/391) on 27 August 1993. The document was also sent to S2, S3, and S12 for information. See ATTACHMENT E for the cover sheet of this 30-day review.

4. Organizational matters and reports on working groups, (continued)

b) S12/WG2 Terminology, Abbreviations and Symbols, (continued)

At the meeting, it was noted that the terminology document now had some 700 definitions finely honed by Mr. Galloway, with the able assistance of Messrs. Marsh and Young, with many hours of work put in to complete this document. (Messrs. Schomer and Winzer were also cited for their help.) Mr. Galloway noted that some fifteen (15) definitions needed to be resolved with S3, and some other editorial points. It was expected to be able to resolve these matters by the end of this meeting and be able to proceed with the publication of this important terminology standard.

At the meeting, it was suggested that a wider circulation of this standard should be made in order to put it into use by as many people as possible. The various avenues for making this standard available will be explored through ASACOS.

c) S12/WG3 Measurement of Noise from Office and Data Processing Equipment - L. Luttrell, Chair

At the last meeting, it was suggested that Mr. Lotz be contacted to see whether he was taking over this activity from Mr. Luttrell as he had succeeded Mr. Luttrell in the S12 representation.

Mr Lotz submitted a report (see ATTACHMENT F). The chairmanship for this working group and whether it should be continued will be explored by the Chair of S12.

d) S12/WG6 Insertion Loss of Outdoor Noise Barriers at Sites of Interest - W. Bowlby, Chair

ANSI S12.8-1987 Methods for Determination of Insertion Loss of Outdoor Noise Barriers was published by ASA, and has been accepted by ISO/TC 43 as an international work item.

At the last meeting, Mr. Johnson reported having received some revisions to the current ANSI S12.8-1987 but that he had not yet been able to contact Mr. Bowlby to determine the intent of the material he had received. It may be that Mr. Fleming can be contacted for more information on this subject. There may therefore be a ballot issued shortly on the revision of ANSI S12.8-1987:

4. Organizational matters and reports on working groups. (continued)

e) S12/WG8 Determination of Interference of Noise with Speech Intelligibility - L. Marshall, Chair

Ms. Marshall reported that the working group would be meeting in Cambridge, Mass., in June 1994 and that, until that time, would work by correspondence.

f) S12/WG9 Annoyance Response to Impulsive Noise - L. Sutherland, Chair

Mr. Sutherland reported as follows:

A meeting of S12/WG9 "Annoyance Response to Impulsive Noise" was scheduled at Denver to address revisions drafted at the last meeting to the current standard ANSI SA12.4-1986 "Method for Assessment of High Energy Impulsive Sounds with Respect to Residential Communities". However, this meeting was canceled due to the recent activation of a CHABA working group on the topic. Since the current standard S12-4 was based on the efforts of an earlier CHABA WG on the topic, it was considered impractical to convene S12 WG9 until the new CHABA WTG has completed its work. This is tentatively scheduled for early 1994 so that, if possible, the WG will reconvene at the Spring, 1994 ASA meeting.

At the meeting, it was noted that CHABA work in this field - newly begin - had delayed progress on this work item. Mr. Galloway said that believed this matter should be resolved shortly, which would mean that work on the document could then proceed.

Mr. Young proposed withdrawing this standard at the S12 meeting, but there was no seconder to the motion, leaving no action to be taken. It was pointed out that Mr. Young's previous comments on this standard had been submitted to S12 ballot, without a consensus being established for his position.

g) S12/WG10 Hearing Protector Attenuation - C. Nixon, Chair

At the meeting, Mr. Nixon reported that most of the comments had been incorporated into the document and that another draft would be circulated for review. He also said that it was expected that the work being developed by Working Group S12/WG11 under Mr. Berger could be incorporated into the document for the revision of ANSI S12.6-1984, and that there would be an option as to which method to use in the standard.

4. Organizational matters and reports on working groups, (continued)

g) S12/WG10 Hearing Protector Attenuation, (continued)

Please also see Mr. Nixon's report in ATTACHMENT G (relating to ISO/TC 43/SC 1/WG17).

Mr. Berger also updated (ATTACHMENT G-2).

h) S12/WG11 Field Effectiveness and Physical Characteristics of Hearing Protectors - E. Berger, Chair

Mr. Berger reported at the meeting that his working group would meet today (7 October 1993). Please see ATTACHMENT H for Mr. Berger's report.

i) S12/WG12 Evaluation of Hearing Conservation Programs - J.D. Royster, Chair, E. Berger, Vice Chair

Draft ANSI S12.13-1992 Evaluating the Effectiveness of Hearing Conservation Programs was published in August 1991 (see Section 3). It was submitted by ANSI to ISO/TC 43/SC1 as a proposed new work item on 21 November 1991, and accepted by the international Subcommittee.

At the meeting, Ms. Royster reported as follows:

The Working Group held a meeting on 6 October 1993 in Denver, with a small portion of working group members present, to discuss needs prior to major working group meeting to be held in February 1994. No formal comments on Draft ANSI S12.13-1991 have been received. The working group plans to submit a document to S12 for ballot as a full standard in 1994.

j) S12/WG15 Measurement and Evaluation of Outdoor Community Noise - P.D. Schomer, Chair

ANSI S12.9-1992, Part 2, Quantities and Procedures for Description and Measurement of Environmental Sound was approved by ANSI (see Section 3) and published by ASA.

4. Organizational matters and reports on working groups, (continued)

j) S12/WG15 Measurement and Evaluation of Outdoor Community Noise, (continued)

Part 3 was submitted to S12 for ballot (LB/S12.9/Part 3/247). The ballot was circulated on 23 November 1992 with a closing date of 4 January 1993. The results were given in the previous S12 Minutes, S12/278. Following the ballot closing, a 30-day review of the revised text was circulated (30-day Review/S12.9/Part 3/265) on 31 March 1993, closing on 3 May 1993.

An initial draft has been prepared of Part 4 on Community Noise. Part 4 looks at the different effects of noise and descriptors to be used for dose effects and dose response relationships.

Part 3 deals with short term measurements and Part 4 with noise assessment. Together, the four documents (Parts 1, 2, 3 and 4) will form a compact series of standards dealing with the Measurement and Evaluation of Outdoor Community Noise.

A meeting was held in Denver (October 1993) to discuss Part 4, which should be available for ballot by Spring/Summer of 1994.

k) S12/WG18 Criteria for Room Noise - R.J. Peppin, Chair

The proposed standard, ANSI S12.2-199X - Criteria for Evaluating Room Noise was sent to S12 ballot (LB/S12.2/279) on 9 July 1993. The ballot was closed on 20 August 1993 with results as given in ATTACHMENT I.

Mr. Guernsey reported at the meeting that the working group was in the process of responding to the comments received on this proposed standard.

l) S12/WG19 Measurement of Occupational Noise Exposure - J.P. Barry/R. Goodwin, co-Chairs

The document was prepared by Mr. Goodwin for ballot in S12. Accordingly, proposed ANSI S12.19-199X - Measurement of Occupational Noise Exposure was sent to S12 ballot (LB/S12.19/256) on 29 January 1993 and closed on 12 March 1993. The results were given in the last S12 Minutes, S12/278.

4. Organizational matters and reports on working groups, (continued)

l) S12/WG19 Measurement of Occupational Noise Exposure, (continued)

The working group last met in April 1993 to review the results of the ballot and to attempt to resolve the negative votes and comments.

Mr. Goodwin reported at the meeting that a revised text is being prepared for 30-Day Review.

m) S12/WG20 Specification of the Noise of New Machinery at the Operator's Position - S. Roth, Chair

ANSI S12.16-1992 was approved by ANSI and published by ASA.

n) S12/WG21 Determination of Sound Power Using Sound Intensity Measurements - M.J. Crocker, Chair

ANSI S12.12-1992 Engineering Method for the Determination of Sound Power Levels of Noise Sources Using Sound Intensity has been published by ASA.

o) S12/WG22 Impulse Sound Propagation for Environmental Noise Assessment - N.D. Lewis, Chair

The proposed ANSI Standard S12.17-199X, was sent to ballot (LB/S12.17/227) on 30 April 1992. The ballot was closed on 11 June 1992, with results as given in the previous S12 Minutes. (ANSI's Public Comment period was over on 20 October 1992.)

At the last meeting, Mr. Luz noted that several issues needed resolution and that it would therefore be another six months to one year before a revised text could be prepared. See ATTACHMENT K for the comments of Mr. Lewis.

Additionally, ANSI has granted an extension of time in which to submit this proposed standard to ANSI for formal approval. That date is now 30 June 1994.

At the meeting, Mr. White reported that work was ongoing in this area to resolve the key issue noted by Mr. Luz.

4. Organizational matters and reports on working groups, (continued)

p) S12/WG23 Determination of Sound Power - P.K. Baade, Chair

Mr. Baade reported previously that the working group will next meet when the revisions of ISO 3743, 3744 and 3746 become ISO standards.

Mr. Schomer reported as follows prior to the meeting:

The committee remains a counterpart to ISO/TC 43/SC1/WG 26. WG 26 completed a Third Committee Draft which was approved at the plenary meeting in Oslo. This document will be circulated as a DIS. WG 23 will continued to provide specific input to this ISO document.

q) S12/WG27 Outdoor Measurement of Sound Pressure Level - G. Daigle, Chair

The document was sent to ballot (LB/S12.18/251) on 21 December 1992, and closed on 1 February 1993 with the results as given in the previous S12 Minutes, S12/278.

Attempts will now be made to resolve the negative votes. Mr. Daigle also wrote as follows for the last meeting:

Comments received from the letter ballot (LB/S12.18/251) indicate that there is some confusion between the scope and purpose of the proposed standard S12.18, and that of S12.9, Part 3. There is also confusion with the proposed revision of S1.13. This is exactly the point raised in the report of the master planning committee for S12 (attached to the Minutes of the last S12 meeting, (S12/248)). This confusion should be resolved as soon as possible, before I proceed to finalize the proposed Standard, S12.18.

At the meeting, Mr. Daigle provided a report based on his exploration of the above issues (ATTACHMENT K).

r) S12/WG30 Revision of Power Tool Institute (PTI) Standard S10.1-1983 - R.J. Callahan, Chair.

ANSI has approved ANSI S12.15-1992 Acoustics-Portable Electric Power Tools, Stationary and Fixed Electric Power Tools, and Gardening Appliances-Measurement of Sound Emitted (revision of ANSI/PTI S10.1-1983), and the

4. Organizational matters and reports on working groups, (continued)

- r) S12/WG30 Revision of Power Tool Institute (PTI) Standard S10.1-1983, (continued)

standard has been published. The working group last met from 21-23 September 1993.

- s) S12/WG31 Predicting Sound Pressure Levels Outdoors - M. White, Chair

Mr. White reported at the meeting as follows:

The Working Group met on 5 October 1993 at Denver, CO during the meeting of the Acoustical Society of America. Present at the meeting were Alexander, Daigle, Engebos, McGregor, Noble, Plotkin and White.

The scope of this WG closely parallels that for the ISO DIS 9613-2, which is at or near the voting stage. The WG is considering whether to use the DIS as a model, or to begin with more up-to-date methods for modeling propagation. In reading through the DIS several members suggested that some parts of it were either unclear or incorrect and therefore unacceptable for a Standard. The ISO committee appears to have done much work to obtain the current DIS, though, and we would not want to repeat their efforts. A closer liaison will be attempted with that committee, to provide our suggestions for improving the DIS and to obtain information on the development of that Standard.

- t) S12/WG32 Revision of ANSI S12.7-1986 Methods for Measurement of Impulse Noise - P.D. Schomer, Chair

Mr. Schomer reported prior to the last meeting as follows:

Currently, this working group is monitoring the progress of ISO where ANSI S12.7-1986 was used as a starting point in the development of an ISO document on Impulse Sound Measurement. Currently, the ISO document still remains fundamentally similar to our ANSI document. The ISO document may advance to the stage where it can be voted on as a DIS.

Based on the ISO DIS, we may wish to propose a revision to ANSI S12.7-1986 to place it in the new ANSI format and make it more identical with the DIS.

4. Organizational matters and reports on working groups. (continued)

- u) S12/WG33 Revision of ANSI S5.1-1971 Test Code for the Measurement of Sound from Pneumatic Equipment - D. Bookshar, Chair

This working group was established at the request of the Compressed Air and Gas Institute (CAGI), to revise ANSI S5.1-1971 on the above subject. The proposed standard in this area has been given the designation ANSI S12.41 and is expected to be received for S12 ballot by summer 1993.

At the meeting, Mr. Pope reported that the working group was close to having a document finalized for letter ballot.

- v) Methodology for a Hearing/Conservation Program - R. Goodwin, Chair

A report has been received (see below):

The June 24 1993 meeting was the first for the committee. The committee set a goal of 1996 to complete the document. The next meeting will be in Philadelphia, Pa., on November 5, 1993. The third meeting will be held February 17 and 18, 1994, prior to the NHCA meeting in Atlanta, Georgia.

- w) S12/WG35 Evaluation of Communication Ability in Noise for Individuals Wearing Hearing Protection - K. Michael, Chair

A report has been received (see ATTACHMENT L).

The working group met in Milwaukee, Wisconsin on 3 September 1993.

5. Listing and/or reports on Liaison working groups from other standards organizations involved in the area of noise (ATTACHMENT A)

- a) S12/L-1 IEEE 85 Committee for TAG Liaison - Noise Emitted by Rotating Electrical Machines (Counterpart to ISO/TC 43/SC1/WG13) - R.G. Bartheld, Chair

This liaison working group provides review of international documents and the development of procedures on measurement and evaluation of the noise produced by rotating electrical machines.

5. Listing and/or reports on Liaison working groups from other standards organizations.
(continued)

a) S12/L-1 IEEE 85 Committee for TAG Liaison. (continued)

Mr. Schomer reported that the international working group met in Oslo in May 1993.

b) S12/L-2 Measurement of Noise from Pneumatic Compressors, Tools and Machines - (Vacant)

Previously, it was decided that this working group should remain on the books since it could well be needed once the tasks of S12/WG33 have been completed. The vacancy will be filled when needed.

c) S12/L-3 SAE Committee for TAG Liaison on Measurement and Evaluation of Motor Vehicle Noise (Counterpart to ISO/TC 43/SC1/WG8) - R.F. Schumacher, Chair.

This working group is active in reviewing ISO documents and Mr. Schumacher attended the ISO/TC 43/SC1 meeting in Oslo.

Mr. Schomer said that, internationally, the U.S. held the convenership in this area.

d) S12/L-4 SAE Committee A-21 for the TAG Liaison on Measurement and Evaluation of Aircraft Noise - C. Bautz, Chair

At the last meeting, Mr. Eldred said that the SAE Committee had formed a planning group to determine future activity and direction. The group had met recently, with about 50 members, and was very active.

At the meeting, Mr. Marsh reported that several international documents have been reviewed.

Mr. Galloway noted that a new working group was established at the Oslo meeting to revise ISO 3891 - Procedure for describing aircraft noise on the ground. Prior to this, ISO/TC 20 on Aircraft Noise had requested that ISO/TC 43 withdraw this standard. Two ballots were circulated for vote, one whether to revise or withdraw, etc. and another ballot for review on a five year basis.

5. Listing and/or reports on Liaison working groups from other standards organizations.
(continued)

d) S12/L-4 SAE Committee A-21 for the TAG Liaison on Measurement and Evaluation of Aircraft Noise, (continued)

A sufficient number of countries thought the standard should be revised, but no U.S. position was expressed.

Therefore, a new working group was established to perform a revision with a scope undetermined. ISO/TC 20 is concerned about this because about three quarters of the standard are not consistent with current international practices. ISO/TC 20 and SAE A-21 have expressed the view to the U.S. TAG that specific sections should be deleted. The U.S. position on this subject has been conveyed to the U.S. TAG Chair, who is preparing a draft position to send to Denmark for advice of the working group. The U.S. TAG Chair for ISO/TC 43/SC1 (Henning von Gierke) has also drafted a scope for the working group and this will be transmitted to L. Nielsen, as Secretary of ISO/TC 43/SC1, for negotiation with the other country participants to determine whether this is an acceptable scope for the working group.

e) S12/L-5 ASTM E-33 on Environmental Acoustics - R.M. Guernsey, Chair

At the last meeting, Mr. Guernsey said he would be the liaison chair for the group acting as the counterpart for TC 43/SC2 Building Acoustics and that Robert Putnam, the Chair of ASTM E33.09 on Community Noise, would act as Chair for that liaison group.

At the last meeting, Mr. Guernsey added that ASTM E-33 on Environmental Acoustics had decided to set up its meeting schedule in conjunction with that of ASA, meeting most likely the weekend before the ASA meeting, commencing in the Fall of 1994.

Mr. Guernsey noted at the meeting that ISO/TC 43/SC2 met following the ISO/TC 43/SC1 meetings in Oslo (May/June 1993).

5. Listing and/or reports on Liaison working groups from other standards organizations, (continued)

f) S12/L-6 SAE Construction-Agricultural Sound Level Committee - L.A. Jennings, Chair

At the last meeting, Mr. Schomer said that this SAE group was assisting in the commenting process on the various ISO documents.

The working group met on Milwaukee, Wisconsin, on 13 September 1993.

g) S12/L-7 SAE Specialized Vehicle and Equipment Sound Level Committee - J.B. Walsh, Chair

This group is the liaison to the SAE Specialized Vehicle and Equipment Sound.

6. Documents without working groups submitted to S12 ballot

None to date.

7. Report on standards more than five years in existence

Section 4.4 of the ANSI Procedure for the Development and Coordination of American National Standards requires that each complete American National Standard (including its supplements and addenda) be reviewed at least every five years to determine whether it should be reaffirmed, revised, or withdrawn. Provision is made for extensions of time, except that no extension is granted beyond ten (10) years from the date of approval by ANSI.

8. Report on International Matters

a) ISO/TC 43 Acoustics and ISO/TC 43/SC1 Noise - H.E. von Gierke, TAG Chair

A report on the activities of ISO/TC 43 has been prepared by the Standards Secretariat (see ATTACHMENT L). Mr. Schomer's report is given in ATTACHMENT C. The last meetings of ISO/TC 43 and ISO/TC 43/SC1 took place from 31 May to 3 June 1993, in Oslo, Norway.

8. Report on International Matters, (continued)

a) ISO/TC 43 Acoustics and ISO/TC 43/SC1 Noise, (continued)

It was considered that the U.S. position established on revising the B and C weightings should be included as part of the S12 Minutes as an attachment (see ATTACHMENT N).

b) ISO/TC 94/SC12 Hearing Protection - H.E. von Gierke, TAG Chair

Please see ATTACHMENT H for Mr. Berger's report on ISO/TC 94/SC12.

c) International Documents Submitted to S12 for Vote and/or Comment

See ISO/TC 43/SC1 report, ATTACHMENT M.

9. New international standards available from ANSI

ISO 9613-1: 1993 - Acoustics - Attenuation of sound during propagation outdoors - Part 1: Calculation of the absorption of sound by the atmosphere.

ISO 9614-1: 1993 - Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points.

10. Procedural Ballots

- a) According to ANSI's procedures, under which the Accredited Standards Committees operate, the Officers of the Standards Committees are to be confirmed (at the beginning of their terms), as well as Individual Experts (the latter to be confirmed annually) by the respective Standards Committees.

The Officers and Individual Experts are proposed by the ASA Committee on Standards (ASACOS) as the Secretariat for the Standards Committees, in connection with the Chairs of the respective Standards Committees.

10. Procedural Ballots, (continued)

a) (continued)

A letter ballot was circulated to S12 on 18 December 1992 (LB/S12/250) with the proposed appointments for 1993/1994. The ballot was closed on 29 January 1993 with results as given in the previous S12 Minutes, S12/278. The respective appointments therefore took effect following the May 1993 meeting of ASA.

11. National standards submitted to S12 for review

None to date.

12. Other Business

a) Project Initiation Notification System (PINS) forms requested by ANSI

The Standards Secretariat has provided ANSI, with a current list of S12 projects for use under ANSI's Project Initiation Notification System (PINS). These are expected to eventually be tabulated in a computerized system by ANSI.

b) At the last meeting, Mr. Galloway called attention to the new ASACOS EDITORIAL GUIDELINES for preparation of standards in acoustics. This document will shortly be finalized and available for chairs of preparatory working groups. The new Guidelines incorporate Part 3 of the ISO Directives (Style Manual) and the harmonized guidelines should make the national and international standards more compatible.

13. New Business

a) Previously, Mr. Callahan stated that NOISE LABELING FOR PRODUCTS was a concern and being looked at by the Power Tool Institute, particularly with regard to European laws and the requirements for U.S. products being sold in Europe. One problem is that in producing quieter products, hazards were found

13. New Business, (continued)

a) (continued)

to exist where users did not know the product was in operation (e.g. knives). It was suggested that an exploratory group be formed in S12 to look into establishing a working group on this topic. Mr. Callahan agreed to review this matter and come up with a suitable scope and rationale.

b) At the last meeting, the subject of SOUND QUALITY GUIDELINES was discussed. It is expected to result in a working group which will probably impact S3 as well as S12. Mr. Johnson said at the last meeting that the scope of this proposed activity will shortly be prepared for ballot. Messrs. (Gordon) Ebbitt and (Earl) Geddes have agreed to co-chair this working group, if approved.

c) Mr. von Gierke asked whether the various correction factors related to environmental standardization were being utilized in the development of U.S. standards. This matter will be explored.

14. Future Meetings

The next meeting of S12 will be held on Thursday, 9 June 1994, in Cambridge, Mass., commencing at 8:30 AM.

NOTE: The reason for the earlier time slot for the S12 meeting was to accommodate a Noise Session, to begin at approximately 10:30 A.M. on the same day. It was agreed that this time slot should be continued, to allow for a short noise session on the Thursday of the ASA meeting week.

15. Adjournment

The meeting was adjourned at 10:15 A.M.


Avril Brenig
Standards Manager



ACOUSTICAL SOCIETY OF AMERICA

OFFICE OF THE
STANDARDS SECRETARIAT

120 WALL STREET, 32nd FLOOR, NEW YORK, NEW YORK 10005-3993

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ATTACHMENT A-1
S12/284

ACCREDITED STANDARDS COMMITTEE ON NOISE - S12

SECRETARIAT: Acoustical Society of America

SCOPE: Standards, specifications and terminology in the field of acoustical noise pertaining to methods of measurement, evaluation and control; including biological safety, tolerance and comfort and physical acoustics as related to environmental and occupational noise.

CHAIR: D.L. Johnson
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VICE CHAIR: P.D. Schomer
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SECRETARY: A. Brenig
Standards Secretariat
Acoustical Society of America
120 Wall Street, 32nd Floor
New York, NY 10005-39933

Tel: (212) 248-0373
Fax: (212) 248-0146

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(a) S12/Advisory	<u>S12 Advisory Planning Committee</u> Be cognizant of standards needs within the scope of the Committee, and organize those needs in accordance with priority, and other relevant factors, into a coherent three year plan for the Committee activity. This three year plan for the preparation of standards should include those which need updating, having regard to the international work items and standards, and the need for timely review (reaffirmations, revisions, withdrawals, etc.) of all national standards, and the priority of new standards needs.	<u>P.D. Schomer</u>
(b) S12/WG2	<u>Terminology, Abbreviations, and Symbols</u> Develop draft standard terminology, abbreviations and symbols for all areas within the scope of S12 with close liaison with counterpart working groups in S1, S2, and S3.	<u>W.J. Galloway</u>
(c) S12/WG3	<u>Measurement of Noise from Office and Data Processing Equipment (counterpart to ISO/TC 43/SC1/WG23)</u> Development of procedures for measurement and evaluation of noise emitted from computer and business equipment and their component noise sources.	<u>L. Lutrell</u>
(d) S12/WG6	<u>Insertion Loss of Outdoor Noise Barriers at Sites of Interest</u> Measurement methods applicable to the measurement and evaluation of the noise reduction provided by outdoor barriers.	<u>W. Bowlby</u>
(e) S12/WG8	<u>Determination of Interference of Noise with Speech Intelligibility</u> Review and revise <u>ANSI S.314-1977</u> to determine whether the standard is current and make any necessary revisions.	<u>L. Marshall</u>
(f) S12/WG9	<u>Annoyance Response to Impulsive Noise</u> Assessment of impulsive sounds with respect to annoyance of individuals and residential communities.	<u>L. Sutherland</u>
(g) S12/WG10	<u>Hearing Protector Attenuation</u> <u>(counterpart to ISO/TC 43/SC1/WG17)</u> Revision of ANSI S3.19-1974 (ASA 1-1975).	<u>C. Nixon</u>

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(h) S12/WG11	<u>Field Effectiveness and Physical Characteristics of Hearing Protectors (counterpart to ISO/TC 94/SC12)</u> The scope of the working group is twofold: A) Explore the problems inherent in using optimum-laboratory real-ear attenuation data to estimate achievable and/or typical workplace protection. Propose a plan of action to identify or develop laboratory and/or field procedure(s) that yield useful estimates of field performance. B) Assess the need for standards specifying the physical characteristics of hearing protectors that are required to provide and maintain their performance. Coordinate counterpart activities with ISO/TC 94/SC12.	<u>E.H. Berger</u>
(i) S12/WG12	<u>Evaluation of Hearing Conservation Programs</u> The goals are to specify objective criteria which can be used to assess the effectiveness of a hearing conservation program, and to devise a plan where the criteria can be implemented. The criteria should recognize pertinent engineering, legal, medical, audiological, and economic facts. The plan should be realistic and thus usable by persons charged with the responsibility for hearing conservation programs.	<u>J.D. Royster</u> <u>E.H. Berger</u> , Vice Chair
(j) S12/WG15	<u>Measurement and Evaluation of Outdoor Community Noise</u> To produce a standard for the measurement of outdoor environmental noise with emphasis on the classification of noise surveys relative to temporal and spatial sampling accuracies achieved.	<u>P.D. Schomer</u>
(k) S12/WG18	<u>Criteria for Room Noise</u> To develop a method for rating the noise encountered in various types of rooms in terms of its effect upon people by means of 1) a weighing network, and 2) a computational procedure to account for temporal pattern of the noise and the need for tone correction as appropriate. The purpose of this method is to arrive at a common yardstick for evaluating environmental noise indoors. In addition to this main charge, also charged with the development and measurement procedures to be utilized in various types of rooms including methods for translating the results of such measurement in the common yardstick.	<u>R.J. Peppin</u>

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(l) S12/WG19	<p><u>Measurement of Occupational Noise Exposure (partial counterpart to ISO/TC 43/SC1/WG19 - ISO 9612)</u></p> <p>Development of a method to evaluate a person's noise exposure received in a workplace. This method must recognize pertinent engineering, legal, medical, audiological, and economic facts. The results must be practical, realistic, reproducible, and relevant to prevention of occupational hearing loss.</p>	<p><u>J.P. Barry/</u> <u>R. Goodwin</u> Co-chairs</p>
(m) S12/WG20	<p><u>Specification of the Noise of New Machinery at the Operator's Position</u></p> <p>Develop a method for measurement and specification of the level of noise at the operator(s) position for newly manufactured machinery in a manner that is suitable for inclusion in other documents that specify the manner of operation and loading of the machine. Five consideration to other existing national and international efforts in a purchase specification, to measurement of total sound power and to evaluate the additive effect of the noise of multiple machines to the level of noise at the operator's position so that a specified level could be related to a selected level for "in use" conditions.</p>	<u>S.I. Roth</u>
(n) S12/WG21	<p><u>Determination of Sound Power Using Sound Intensity Measurements</u></p> <p>Specify methods for measuring sound intensity directly on a measurement surface enveloping a sound source and for calculating the sound power radiated by that source. Methods shall be developed as appropriate for all types of machinery, equipment and radiating surfaces, but shall not include the power radiated from moving vehicles or air moving devices. The working group shall maintain liaison with any activity in this area by ISO/TC 43.</p>	<u>M.J. Crocker</u>
(o) S12/WG22	<p><u>Impulse Sound Propagation for Environmental Noise Assessment</u></p> <p>Establish an engineering method to specify average propagation for a distribution of blast noise events for purposes of environmental noise assessment. The methods should apply to high-energy impulse sounds at moderate distances (1-30 km) from sources such as demolition or mining blasting, artillery firing and bomb explosions using conventional explosives of less than approximately one ton. Prevailing meteorological conditions and terrain should be considered when practicable.</p>	<u>N.D. Lewis</u>

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(p) S12/WG23	<u>Determination of Sound Power</u> Monitor the sound power series of standards (i.e. S12.30, 31, 32, 33, 34, 35, and 36) and revise as necessary.	<u>P.K. Baade</u>
(q) S12/WG27	<u>Outdoor Measurement of Sound Pressure Level</u> Develop standardization methods for measuring sound pressure levels in the outdoor environment, considering the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence and the effects of variable ground impedance and wind noise. Close coordination should be maintained with working group S1/WG4 which is revising ANSI S1.13 Measurement of Sound Pressure Levels	<u>G. Daigle</u>
(r) S12/WG30	<u>Revision of Power Tool Institute (PTI) Standard S10.1-1983</u> American National Standard for Acoustics Portable Electric Power Tools, Stationary and Fixed Electric Powered Tools and Gardening Appliances. Measurement of Sound Emitted (proposed as an ANSI Standard under the jurisdiction of Accredited Standards Committee S12, Noise).	<u>R.J. Callahan</u>
(s) S12/WG31	<u>Predicting Sound Pressure Levels Outdoors</u> Develop standard method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of noise at a distance from a large variety of sources. The method should be a general engineering procedure that includes the combined effects of: geometrical divergence, atmospheric absorption, the effects of variable ground impedance, the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence, reflection from surfaces, as well as propagation through foliage.	<u>M. White</u>
(t) S12/WG32	<u>Revision of ANSI S12.7-1986 Methods for Measurement of Impulse Noise</u>	<u>P.D. Schomer</u>
(u) S12/WG33	<u>Revision of ANSI S5.1-1971 Test Code for the Measurement of Sound from Pneumatic Equipment</u> Develop standards on the measurement of all types of pneumatic equipment such as air tools, hoists, rock drills, paving breakers, etc.	<u>D. Bookshar</u>

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(v) S12/WG34	<p><u>Methodology for a Hearing Conservation Program</u> Develop a methodology for a hearing conservation program. The methodology must recognize pertinent engineering, medical, audiological, legal, and economic facts. The program must be practical, realistic, reproducible, and relevant to the prevention of occupational hearing loss.</p>	<u>R. Goodwin</u>
(w) S12/WG35	<p><u>Evaluation of Communication Ability in Noise for Individuals Wearing Hearing Protection</u> The development of a method of predicting the ability of an individual to communicate in noise while wearing hearing protection. The method will be applicable to individuals with normal hearing and to individuals with mild, moderate and severe hearing losses. The purpose is to allow the selection of hearing protection that prevents noise-induced hearing loss but that does not unnecessarily inhibit communication. The use of proper hearing protection optimizes verbal communication, warning signal recognition and recognition of machine operating sounds.</p>	<u>K. Michael</u>
<p><u>LIAISON WORKING GROUPS FROM OTHER STANDARDS ORGANIZATIONS ACTIVE IN THE AREA OF NOISE</u></p>		
(a) S12/L-1	<p><u>IEEE 85 Committee for TAG Liaison - Noise Emitted by Rotating Electrical Machines (counterpart to ISO/TC 43/SC1/WG13)</u> Review of international documents and the development of procedures of measurement evaluation of the noise produced by rotating electrical machines.</p>	<u>R.G. Bartheld</u>
(b) S12/L-2	<p><u>Measurement of Noise from Pneumatic Compressors Tools and Machines</u> (counterpart to ISO/TC 43/SC1/WG9).</p>	<u>(vacant)</u>
(c) S12/L-3	<p><u>SAE Committee for TAG Liaison on Measurement and Evaluation of Motor Vehicle Noise</u> (counterpart to ISO/TC 43/SC1/WG8) To provide input to the ISO/TC 43/SC1 TAG for the formulation of U.S. positions on international proposals from WG8 and recommendations for new ISO projects in its area.</p>	<u>R.Schumacher</u>

<u>WORKING GROUP</u>	<u>TITLE AND SCOPE</u>	<u>CHAIR</u>
(d) S12/L-4	<u>SAE Committee A-21 for TAG Liaison on Measurement and evaluation of Aircraft Noise - (International counterpart in ISO is currently inactive.)</u>	<u>C. Bautz</u>
(e) S12/L-5	<u>ASTM E-33 on Environmental Acoustics</u> The development of standards on the characteristics and performance of materials, products, systems, and services relating to the acoustical environment and the promotion of related knowledge (to include the activities of ASTM E33.06 on Building Acoustics, counterpart to ISO/TC 43/SC2 and ASTM E33.09 on Community Noise).	<u>R.M. Guernsey</u>
(f) S12/L-6	<u>SAE Construction-Agricultural Sound Level Committee</u> Review of international documents and the development of procedures on measurement and evaluation of both operator station and exterior sounds for mobile self-propelled construction, mining, forestry and agricultural machinery.	<u>L.A. Jennings</u>
(g) S12/L-7	<u>SAE Specialized Vehicle and Equipment Sound Level Committee</u> Responsible for all SAE technical matters concerning sound emission, and its measurement, of surface vehicles, powered equipment, and their components which are under the direction of the Specialized Vehicle and Equipment Council.	<u>J.B. Walsh</u>

STATUS REPORT

FIELD STATUS:

COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S3.14-1977 (R 1986)	Rating Noise with Respect to Speech Interference (S12/WG8)	RV;SP	1	S	
S3.19-1974 (R 1990)	Method for the Measurement of Real-Ear Protection of Hearing Protectors and Physical Attenuation of Earmuffs (S12/WG10)	RV;SP	1	S	Partially superseded by S12.6-1984. Remainder to be superseded by new standard being written
S12.1-1983 (R 1990)	Guidelines for the Preparation of Standard Procedures for the Determination of Noise Emission	RV		S	
S12.2-199X	Criteria for Room Noise (S12/WG18) (i) Criteria for time-varying noise (ii) Criteria for steady-use room noise (iii) Method for measuring room noise	NS;SP	3	S	

STATUS		ACTIVITY		METHOD	
NS- NEW STANDARD IN PROCESS	NR- NEEDS REVIEW	0- NONE		C-ACCREDITED CANVASS	
RF- REAFFIRMATION IN PROCESS	AP- ANSI APPROVED	1- FORMATIVE STAGE		O-ACCREDITED ORGANIZATION	
RV- REVISION IN PROCESS	OP- OUT OF PRINT	2- DRAFTING STANDARD		S-ACCREDITED STANDARDS COMMITTEE	
WD- WITHDRAWAL IN PROCESS	NA- NOT AVAILABLE	3- VOTING ON PROPOSAL		X-NOT INTENDED FOR ANSI	
ES- ENVIRONMENTAL SOUND	UD- UP TO DATE	4- ANSI STANDARDS ACTION			
SP- SUBMITTED PINS FORMS		5- OBJECTIONS BEING CONSIDERED			
		6-ANSI CONSIDERING APPROVAL			

STATUS REPORTFIELD STATUS:COMMITTEE: S12 NOISEDESIGNATION/
EDITION SUBJECT OR TITLESTATUS ACTIVITY METHOD COMMENTS OR
EXPECTED DATE OF
SUBMISSION TO ANSIS12.3-1985 Statistical Method for Determining and Verifying
(R 1990) Stated Noise Emission Values of Machinery and
Equipment (counterpart to ISO/DIS 7574)
(S12/WG7) UD SS12.4-1986 Method for Assessment of High-Energy Impulsive
(R 1993) Sounds with Respect to Residential Communities
(S12/WG9) UD 1 SS12.5-1990 Requirements for the Performance and Calibration
of Reference Sound Sources (ISO/DIS 6926)
(S12/WG23) UD SS12.6-1984 Method for the Measurement of the Real-Ear
(R 1990) Attenuation of Hearing Protectors (S12/WG10) UD SS12.7-1986 Methods for the Measurement of Impulse Noise
(R 1993) (S12/WG32) RV;SP SS12.8-1987 Methods for the Determination of Insertion Loss of
Outdoor Noise Barriers (S12/WG6) UD 3 SSTATUS

NS- NEW STANDARD IN PROCESS

RF- REAFFIRMATION IN PROCESS

RV- REVISION IN PROCESS

WD- WITHDRAWAL IN PROCESS

ES- ENVIRONMENTAL SOUND

SP- SUBMITTED PINS FORMS

NR- NEEDS REVIEW

AP- ANSI APPROVED

OP- OUT OF PRINT

NA- NOT AVAILABLE

UD- UP TO DATE

ACTIVITY

0- NONE

1- FORMATIVE STAGE

2- DRAFTING STANDARD

3- VOTING ON PROPOSAL

4- ANSI STANDARDS ACTION

5- OBJECTIONS BEING CONSIDERED

6-ANSI CONSIDERING APPROVAL

METHOD

C-ACCREDITED CANVASS

O-ACCREDITED ORANIZATION

S-ACCREDITED STANDARDS COMMITTEE

X-NOT INTENDED FOR ANSI

FIELD

COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.9-1988/ Part 1 (R 1993)	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 1</u> (S12/WG15)	UD	0	S	
S12.9-1992/ Part 2	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 2</u> (S12/WG15)	UD		S	
S12.9-199X Part 3	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 3</u> (S12/WG15)	NS	4	S	
S12.9-199X Part 4	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 4</u> (S12/WG15)	NS	1	S	
S12.10-1985 (R 1990)	Methods for the Measurement and Designation of Noise Emitted by Computer and Business Equipment (S12/WG3) (revision of ANSI S1.29-1979)	UD			

STATUS

ACTIVITY

METHOD

NS- NEW STANDARD IN PROCESS
 RF- REAFFIRMATION IN PROCESS
 RV- REVISION IN PROCESS
 WD- WITHDRAWAL IN PROCESS
 ES- ENVIRONMENTAL SOUND
 SP- SUBMITTED PINS FORMS
 NR- NEEDS REVIEW
 AP- ANSI APPROVED
 OP- OUT OF PRINT
 NA- NOT AVAILABLE
 UD- UP TO DATE

0- NONE
1- FORMATIVE STAGE
2- DRAFTING STANDARD
3- VOTING ON PROPOSAL
4- ANSI STANDARDS ACTION
5- OBJECTIONS BEING CONSIDERED
6-ANSI CONSIDERING APPROVAL

**C-ACCREDITED CANVASS
O-ACCREDITED ORGANIZATION
S-ACCREDITED STANDARDS COMMITTEE
X-NOT INTENDED FOR ANSI**

STATUS REPORT

FIELD STATUS:

COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.11-1987 (R 1993)	Methods for the Measurement of Noise Emitted by Air-Moving Devices (<u>S12/WG3</u>)	NS:SP	2	S	
S12.12-1992	Determination of Sound Power Using Sound Intensity Measurements (<u>S12/WG21</u>)	UD		S	
Draft S12.13-1991	Evaluation of Hearing Conservation Programs (<u>S12/WG12</u>)	UD:SP		S	
S12.14-1992	Methods for the Field Measurement of the Sound Output of Audible Public Warning Devices Installed at Fixed Locations Outdoors (<u>S12/WG29</u>)	UD		S	
S12.15-1992	Revision of <u>ANSI/PTI S10.1-1983</u> - Portable Electric Power Tools, Stationary and Fixed Electric Powered Tools and Gardening Appliances. Measurement of Sound Emitted (<u>S12/WG30</u>)	UD		S	
S12.16-1992	Specification of the Noise of New Machinery at the Operator's Position (<u>S12/WG20</u>)	UD		S	

STATUS		ACTIVITY	METHOD
NS- NEW STANDARD IN PROCESS	NR- NEEDS REVIEW	0- NONE	C-ACCREDITED CANVASS
RF- REAFFIRMATION IN PROCESS	AP- ANSI APPROVED	1- FORMATIVE STAGE	O-ACCREDITED ORGANIZATION
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STATUS REPORT

FIELD STATUS:

COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.17-199X	Impulse Sound Propagation for the Environmental Noise Assessment (<u>S12/WG22</u>)	NS		S	
S12.18-199X	Outdoor Measurement of Sound Pressure Level	NS	3	S	
S12.19-199X	Measurement of Occupational Noise Exposure (<u>S12/WG19</u>)	NS	3	S	
S12.23-1989	Method for the Designation of Sound Power Emitted by Machinery and Equipment (revision of <u>ANSI S1.23-1976</u> and <u>ANSI S3.17-1975</u>)	UD		S	
S12.30-1990	Guidelines for the Use of Sound Power Standards and for the Preparation of Noise Test Codes (counterpart to <u>ISO 3740: 1980</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.30-1979</u>)	UD		S	
S12.31-1990	Precision Methods for the Determination of Sound Power Levels of Broad-Band Noise Sources in Reverberation Rooms (counterpart to <u>ISO 3741: 1975</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.31-1979</u>)	UD		S	

STATUS		ACTIVITY	METHOD
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STATUS REPORTFIELD STATUS:COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.32-1990	Precision Methods for the Determination of Sound Power Levels of Discrete-Frequency and Narrow-Band Noise Sources in Reverberation Rooms (counterpart to <u>ISO 3742: 1975</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.32-1979</u>)	UD		S	
S12.33-1990	Engineering Methods for the Determination of Sound Power Levels of Noise Sources in a Special Reverberation Test Room (counterpart to <u>ISO 3743: 1976</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.33-1979</u>)	UD		S	
S12.34-1988 (R 1993)	Engineering Methods for the Determination of Sound Power Levels of Noise Sources for Essentially Free-Field Conditions Over a Reflecting Plane (counterpart to <u>ISO 3744: 1981</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.34-1980</u>)	UD		S	

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FIELD	STATUS:				
COMMITTEE:	S12 NOISE				
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.35-1990	Precision Methods for the Determination of Sound Power Levels of Noise Sources in Anechoic and Semi-Anechoic Rooms (counterpart to <u>ISO 3745: 1977</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.35-1979</u>)	UD		S	
S12.36-1990	Survey Methods for the Determination of Sound Power Levels of Noise Sources (counterpart to <u>ISO 3746: 1979</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.36-1979</u>)	UD		S	
S12.37-199X	Determination of Sound Power Levels of Sound Sources. Methods for in situ Measurement Using a Reference Sound Source (counterpart to <u>ISO 3747: 1987</u>) (<u>S12/WG23</u>)	NS;SP	2	S	
S12.40-1990	Sound Level Descriptors for Determination of Compatible Land Use (<u>S12/WG15</u>) (Revision and Redesignation of <u>ANSI S3.23-1980</u>)	UD		S	

STATUS		ACTIVITY	METHOD
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SP- SUBMITTED PINS FORMS		5- OBJECTIONS BEING CONSIDERED	
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STATUS REPORT

FIELD STATUS:

COMMITTEE: S12 NOISE

DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.XX-199X	Measurement and Evaluation of Outdoor Community Noise (S12/WG15)	NS;SP	1	S	
S12.XX-199X	Predicting Sound Pressure Levels Outdoors (counterpart to ISO/TC 43/SC1/WG24) (S12/WG31)	NS;SP	1	S	
S12.41-199X	Acoustics - Air Tools and Small Air-driven Machinery. Measurement of Sound Emitted. (S12/WG33)	RV	1	S	Revision of CAGI Standard S5.1-1971

STATUS		ACTIVITY	METHOD
NS- NEW STANDARD IN PROCESS	NR- NEEDS REVIEW	0- NONE	C-ACCREDITED CANVASS
RF- REAFFIRMATION IN PROCESS	AP- ANSI APPROVED	1- FORMATIVE STAGE	O-ACCREDITED ORGANIZATION
RV- REVISION IN PROCESS	OP- OUT OF PRINT	2- DRAFTING STANDARD	S-ACCREDITED STANDARDS COMMITTEE
WD- WITHDRAWAL IN PROCESS	NA- NOT AVAILABLE	3- VOTING ON PROPOSAL	X-NOT INTENDED FOR ANSI
ES- ENVIRONMENTAL SOUND	UD- UP TO DATE	4- ANSI STANDARDS ACTION	
SP- SUBMITTED PINS FORMS		5- OBJECTIONS BEING CONSIDERED	
		6-ANSI CONSIDERING APPROVAL	

June 28, 1993

standard\oslo.rpt

**Report on ISO TC 43 and TC 43/SC1 Meeting in Oslo
30 May through 3 June 1993 and S12 Planning**

1. Meeting of TC 43/SC 1

1. Resolutions and Plenary Materials.

Resolutions passed by TC 43/SC 1 are included (N 893--inc. 1) with pen changes as indicated. Two new proposals for work items (N889 and N890, incs. 2 and 3) were approved for formal circulation to member bodies. Items from the package of materials used at the plenary meeting can be made to anyone who wants a particular item.

2. US Participation.

The US had by far the largest delegation at the meeting. This large US presence facilitated enhanced US input to the various working group meeting. In particular, US participation was very positive and substantial in the areas of vehicle noise (standard road surfaces and their measurement, barriers, and other issues), sirens, sound intensity, impulse noise measurement, and sound propagation. Reports from some of the working group meetings are included.

3. Important Results

a. The S12 Committee suggested that several of the proposed ISO Standards should be technical reports rather than standards. This position was accepted by TC43/SC 1. Many other countries had similar sentiments.

b. The US will provide the conveners for two new efforts. One will deal with motor vehicle noise. Dick Schumacher of GM will be the convener. The second, if approved, will deal with community noise assessment and Paul Schomer will be the convener.

c. The use of sound exposure has been retained as a general terms and will not be limited to worker exposure.

d. A Danish proposal to revise C-weighting was accepted for ballot as a new work item. The US must appose the effort since many present ANSI standards depend on the present C-weighting. Canada and New Zealand also vigorously appose this item. If approved, the US must find a strong individual to be a member of this working group.

4. **US/Canadian Coordination**

The US and Canada worked closely to support each other during the meeting. This enhanced the influence of both countries at the meeting. This coordination should be expanded.

5. **S12 Actions**

a. S12 continues to bear the largest burden with respect to ISO. Of the more than 60 documents underway, about 55 relate to S12. Therefore, for the foreseeable future, S12 planning must focus primarily on meeting the ISO challenge. The new S12 structure which divides into several technical areas is helping to meet this challenge.

b. The biggest future challenge is to develop methods to concurrently ballot documents for US and ISO. We need to find and expedite ways to adopt ISO Standards as ANSI (or other member body) Standards.

P.D. Schomer, Vice Chair
U.S. TAG for ISO/TC 43 and
ISO/TC 43/SC1

S12 NOISE

ANSI S12.1-1983 (R 1990)

Guidelines for the Preparation of Standard Procedures for the Determination of Noise Emission from Sources

ANSI S12.3-1985 (R 1990)

Statistical Methods for Determining and Verifying Stated Noise Emission Values of Machinery and Equipment

ANSI S12.4-1986
(R 1993)

Method for Assessment of High-Energy Impulsive Sounds with Respect to Residential Communities

ANSI S12.5-1990

Requirements for the Performance and Calibration of Reference Sound Sources

ANSI S12.6-1984 (R 1990)

Method for the Measurement of the Real-Ear Attenuation of Hearing Protectors

ANSI S12.7-1986
(R 1993)

Methods for Measurements of Impulse Noise

ANSI S12.8-1987

Methods for Determination of Insertion Loss of Outdoor Noise Barriers

ANSI S12.9-1988
Part 1
(R 1993)

Quantities and Procedures for Description and Measurement of Environmental Sound
Part 1

ANSI S12.9-1992
Part 2

Quantities and Procedures for Description and Measurement of Outdoor Environmental Sound

ANSI S12.10-1985

Methods for the Measurement and Designation of Noise Emitted by Computer and Business Equipment (Revision of ANSI S1.29-1979)

S12 NOISE (continued)

ANSI S12.11-1987
(R 1993)

Methods for the Measurement of Noise
Emitted by Small Air-Moving Devices

ANSI S12.12-1992

Engineering Method for the Determination
of Sound Power Levels of Noise Sources
Using Sound Intensity

DRAFT ANSI S12.13-1991

Evaluating the Effectiveness of Hearing
Conservation Programs

ANSI S12.14-1992

Methods for the Field Measurement of the
Sound Output of Audible Public Warning
Devices Installed at Fixed Locations
Outdoors

ANSI S12.15-1992

Acoustics - Portable Electric Power Tools,
Stationary and Fixed Electric Power Tools,
and Gardening Appliances. Measurement
of Sound Emitted.

ANSI S12.16-1992

Guidelines for the Specification of Noise of
New Machinery

ANSI S12.23-1989

Method for the Designation of Sound
Power Emitted by Machinery and
Equipment

ANSI S12.30-1990

Guidelines for the Use of Sound Power
Standards and for the Preparation of Noise
Test Codes

ANSI S12.31-1990

Precision Methods for the Determination of
Sound Power Levels of Broad-Band Noise
Sources in Reverberation Rooms

ANSI S12.32-1990

Precision Methods for the Determination of
Sound Power Levels of Discrete-Frequency
and Narrow-Band Noise Sources in Special
Reverberation Rooms

ANSI S12.33-1990

Engineering Methods for the Determination
of Sound Power Levels of Noise Sources in
a Special Reverberation Test Room

S12 NOISE (continued)

ANSI S12.34-1988
(R 1993)

Engineering Methods for the Determination
of Sound Power Levels of Noise Sources
for Essentially Free-Field Conditions over a
Reflecting Plane

ANSI S12.35-1990

Precision Methods for the Determination of
Sound Power Levels of Noise Sources in
Anechoic and Hemi-Anechoic Rooms

ANSI S12.36-1990

Survey Methods for the Determination of
Sound Power Levels of Noise Sources

ANSI S12.40-1990

Sound Level Descriptors for Determination
of Compatible Land Use



ACOUSTICAL SOCIETY OF AMERICA

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Telex 960963 AMNSTPHYS NYK
Telefax (212) 949-0473

ATTACHMENT E-1
S12/284

30 Day Review/S1.1/391
27 August 1993

TO: THE MEMBERS OF ACCREDITED STANDARDS
COMMITTEE S1 (AND TO S2, S3 AND S12
MEMBERS FOR INFORMATION)

● 30 DAY REVIEW ●
on proposed American National Standard S1.1-199X
Acoustical Terminology (a revision of ANSI S1.1-1960)

The ballot on the March 1993 draft of the revision of ANSI S1.1-1969 (R 1976) Acoustical Terminology, closed on 5 May 1993 with the following votes in S1: 6 affirmative, 3 negative, no abstentions, and 8 not returned. The three negative votes were received from two individuals (C.D. Bohl), American Industrial Hygiene Association, and (P.D. Schomer), for the U.S. Army Construction Engineering Research Laboratory, and the Acoustical Society of America). Negative comments were also received from S.L. Ehrlich, Individual Expert to S1.

The document was also circulated for comment to Accredited Standards Committees S2, S3, and S12. Comments were received from organizational representatives, individual experts and others on the March 1993 draft.

Accordingly, the working group chaired by W.J. Galloway, has diligently completed an extensive review of the comments and incorporated many editorial changes to the text. Enclosed therefore is the second draft, dated July 1993, of the proposed standard on Acoustical Terminology.

You are asked to review this July 1993 draft of the above document, which was developed as a result of incorporating comments received from the negative voters and other commentators. It is the understanding of the ad hoc working group that these comments have successfully addressed the negative votes and comments and that these voters and commentators will therefore approve this second draft.

-2-

30 Day Review/S1.1-199X
27 August 1993

If we do not hear from you by 27 September 1993, we will assume that you are in agreement with the changes made to the text, as given in the draft dated July 1993. Provided there is agreement with this draft, we will then proceed to submit the document to the next stage of development under ANSI procedures, for approval as an American National Standard.


Avril Brenig
Standards Manager

cc: Behar
Ehrlich
Frank
Galloway
Johnson
Marsh
McKinley
Royster
Schomer
Wong
Young

[illegible]

29 July 1993

ATTACHMENT E-3
S12/284

Note to Reviewers, 2nd draft, Revision of
S1.1-1960 (R1976) *American National Standard Acoustical Terminology*

Responses to the ballot for the first draft, dated 5 March 1993, of a revision of "Acoustical Terminology" produced three negative votes, with comments, as well as comments from positive S1 voters. The ad hoc working group has resolved one of the negative votes with a change in the caption on Table 13.2. Extensive changes were made, particularly in section 4.0, "Levels", and in the parallel definitions of basic quantities in section 3.0, in an attempt to resolve with the negative voter, who voted for two organization, his objections. The ad hoc group understands that these changes will cause the two votes to be reversed, leaving no negative votes.

Many helpful suggestions were received from individual experts from S1 and from reviewers from S1 and S12, who were not voters. Every attempt to accommodate these suggestions has been made where possible. In a number of cases this has not been feasible where a proposal was in conflict with an existing international terminology definition in IEC 801: Acoustics and Electroacoustics Vocabulary. (ASACOS policy is to follow IEC wherever possible.) In a number of other instances requests for changes or additions were made which, despite the admonition on the ballot that comments without suggested wording would not be accepted, were not accompanied by suggested text. A number of these suggestions were considered by the ad hoc group to be more appropriately included in a revision of S3.20 *American National Standard Psychoacoustical Terminology*, which is now undergoing revision. In some cases the ad hoc committee was able to generate revised text to meet a number of the suggestions, but did not feel it was within its scope to add numerous additional terms where no text to do so was provided.

All told, several hundred editorial changes have been made to the first draft document. The ad hoc working group hopes that these changes will be acceptable to those reviewers who approved the original draft.

William J. Galloway



COMMITTEE CORRESPONDENCE

Boulder Lab

5541 Central Avenue
Boulder CO 80301-2846
Local 303 449 4165
Fax 303 449 3004

Date: 2 June, 1993

To: Avril Brenig

From: Lyle Luttrell

Subj.: Working Group S12-3

I am recommending that Working Group S12-3, Noise emissions of office and data processing equipment, be disbanded. The program of work of the working group has been completed, no additions to the program have been suggested, and the working group has not met for about three years. While there is some activity at the international level (ISO TC43/SC1/WG 23) that could be potentially be transposed into national standards, the international nature of the computer industry has lead to a focus on development and use of the international standards. Therefore, transposition should involve minimal efforts that could be done on an ad hoc basis. I do not have any suggestions for people to work on transposition; I would suggest that you contact Bill Hanrahan at CBEMA for assistance.

I have enjoyed the participation on S12 over the last fifteen years, and I would be interested in serving as an Individual Expert on the committee.

cc Dan Johnson
Bill Hanrahan
Bob Lotz

RECEIVED

AS
SECRETARY

Report Given at S12 Meeting in Denver
WG S12.10 Hearing Protection

Current effort is to establish a standard for the objective or physical measurement of the insertion loss of circumaural type hearing protection devices that is also appropriate for non-linear or amplitude sensitive devices. The proposed standard contains two different procedures; one is the "dummy head" or acoustic test fixture method that is now contained in S3.19-1974 and the other is a microphone-in-ear method that utilizes human subjects. The electroacoustics are essentially the same for both procedures. Draft 1 was circulated and draft 2 has been prepared in accordance with the comments on draft 1. Draft 2 will be circulated to the WG members in the November time period with a possible draft for ANSI in the spring of 1994, hopefully prior to the meeting in Cambridge.

WG S12.11 has completed an interlaboratory (four laboratories) study of the measurement of the attenuation of hearing protectors using a "naive subject fit" method. The method is essentially the same as the current S12.6 Real-Ear at Threshold Method with alterations made to instructions, fitting, and the experimenters role sections of the procedure. Initial analyses of results indicate that the measured attenuation values are much closer to real-world attenuation values than values measured with the supervised fit of S12.6. The S12.11 WG, whose purpose includes development of procedures that provide attenuation values closer to those in the real world, has initiated efforts to establish this procedure as a draft ANSI standard. It is proposed that S12.6 be modified by the members of S12.11 to produce a single standard that will contain both a supervised fit and a naive subject fit method. The electroacoustics should be almost identical for the two methods. Either or both methods could be selected for implementation depending upon the purposes of the measurements. Concurrence of this approach has been reached by the chairs of WG's S12.10 and S12.11 as well as the Chair of S12.

Charles Nixon

SEP-15-1993 13:27 FROM USACERL - ACOUSTICS

TO AVRIL BRENIG P.05

CABOT SAFETY CORPORATION
Research and Development
Hearing Protection Acoustics

TO: Avril Brenig Charles Nixon
FROM: Elliott H. Berger
DATE: June 10, 1993
SUBJECT: Meeting of ISO/TC43/SC1/WG17
Oslo, Norway, June 1, 1993

We met for a full day under the direction of Bertil Johansson. The principal topics were discussion of the voting on ISO 4869 Part 2 and draft 1 of ISO 4869 Part 4.

ISO 4869 Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn.
This was approved in the ISO ballot where Germany voted yes, but disapproved in the CEN ballot where Germany voted no. Minor changes were made, the principal one being the addition of a Protection Performance of 84% ($\alpha = 1.00$), to Table 1, and the designation of 84% as the preferred value of Protection Performance.

This document will need to be re-balloted by CEN, where it is likely to pass.

ISO 4869 Part 4: Method for measurement of sound attenuation of amplitude sensitive hearing protectors.
An initial draft which had been circulated to the committee on April 13, 1993, was discussed. Substantial discussion ensued and significant changes were made. The decision of the group was to determine what was the minimum we needed to know about such devices and to then devise the least amount of measurements necessary to provide such results.

The next draft, which is due for circulation to the WG in early September should include the following features:

- 1) 4869 Part 1 (REAT) evaluation of the passive attenuation of such devices.
- 2) Microphone-in-real-ear (MIRE) measures from 50 dBA external sound levels in 10-dB steps until the earcanal levels (converted to equivalent diffuse field) equal or exceed 90 dBA.

SEP-15-1993 13:28 FROM USACERL - ACOUSTICS

TO

AURIL BRENIG P.06

June 1993 Meeting of WG17

Page - 2

- 3) ATF measurements to replicate the higher level measurements will be optional.
- 4) Test signals will be broadband gaussian noise with constant spectral slopes (white, pink, etc.) to achieve C-A values of -1.5 dB, +2.0 dB, and +6.0 dB.
- 5) Sound field will be per 4869 Part 1, with a test range of 112 - 9000 Hz.

The major unresolved questions include:

- 1) Is it possible for an ISO 4869 Part 1 type of tetrahedral array to generate sufficiently high sound pressure levels to accomplish this testing (levels up to 115 dB) or will other speaker arrangements be required?
- 2) What type of microphone should be used and where should it be placed? Miniature mics and probe mics, either in the canal or concha will be considered and work will be coordinated with other ongoing ISO and research activities. No earplug is required under the mic (to protect the ear) since testing starts at very low levels and stops as soon as 90 dBA is achieved.
- 3) Will this standard be applicable to earplugs or only to circumaural and semi-aural devices?
- 4) How many subjects? A likely choice is 8 subj. x 1 measure on each ear.

Part 4 does not deal with hearing protector response to impulsive noise. European-based research on this topic is underway. Until this research completed in 2 - 3 yrs., neither WG17 nor CEN/TC 211 (which has deferred its work to WG17) is anticipated to develop a standard in this area.


Elliott H. Berger
Alternate U. S. Representative to WG17

/wg1793.iso

CABOT SAFETY CORPORATION
Research and Development
Hearing Protection Acoustics

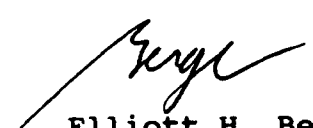
TO: Avril Brenig
FROM: Elliott H. Berger
DATE: November 1, 1993
SUBJECT: Fall 1993 report on activities of S12/WG11

The working group presented the results of its interlaboratory HPD attenuation measurement study at a special session sponsored by the Technical Committee on Noise, on Tuesday afternoon at the Denver, ASA. On Thursday of ASA week (October 7) the WG met to review the results of the presentations and plan future activities.

It was agreed that work should begin on drafting a standard modeled around the subject-fit section of the interlaboratory study protocol. Furthermore, as a result of an agreement with Charles Nixon, Chair of WG10, WG11 will take responsibility for revising/updating ANSI S12.6-1984. In so doing the intention is to maintain the existing portions of the standard, including the experimenter-supervised fit essentially as they now appear (with only minor changes) and to add the subject-fit protocol from the WG11 research as a Part B alternative in the document. Thus, users of the revised standard would have a choice of Part A - Experimenter-Supervised (optimum) Fit, and Part B - Subject-Fit real-world estimated data.

The WG also decided to press forward with the preparation of four manuscripts based on the interlaboratory research which we plan to submit for publication in JASA in calendar year 1994.

Discussion also involved whether WG10 or WG11 is the best WG to pursue examination, and potential adoption, of the soon-to-be-available ISO standard on number ratings for hearing protectors, ISO 4869-Part II, *Estimation of effective A-weighted sound pressure levels when hearing protectors are worn*. This will be further explored next year.


Elliott H. Berger
Chair S12/WG11

/ansirep9.s12

S12/WG12 REPORT FOR THE SPRING 1993 ASA MEETING (OTTAWA)

- 1. I will attend both the Ottawa meeting and the S12 meeting there.**
- 2. S12/WG12 has not met since the last report. S12/WG12 will next meet at ASA in fall 1993 and at NHCA in Spring 1994.**
- 3. No change from the last report.
We are still awaiting for feedback from users of the draft Standard S12.13-1991. We will revise the draft standard as needed if feedback comes in.**

Several people have volunteered new potential control data bases. Once these are acquired and analyzed, their results hopefully will confirm the criterion ranges in the draft standard (or alternately will lead to revisions of the criterion ranges).

An ISO working group with goals similar to those of S12/WG12 has been organized (TC 43/WG5) with Larry Royster as convenor and Julia Royster as U.S. member. The first meeting will take place in Switzerland in July 1993.

Submitted by Julia D. Royster, Chair S12/WG12

**address: 4706 Connell Drive
Raleigh, North Carolina 27612**



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9 September 1993

TO: D.L. Johnson, Chair S12

Re: Letter Ballot LB/S12.2/279 sent to the Accredited
Standards Committee S12 on 9 July 1993 closed on
20 August 1993

SUBJECT: Approval of proposed standard ANSI S12.2-199X, Criteria for Evaluating
Room Noise, draft dated April 1993

Enclosed please find tally of the above letter ballot, showing results
as follows:

CLASSIFICATION OF MEMBERS

AFFIRMATIVE VOTES	17	P - PRODUCER	10
NEGATIVE VOTES	2	C - CONSUMER	3
ABSTENTIONS	2	G - GOVERNMENT	9
NOT RETURNED	10	GI - GENERAL INTEREST	9
	---		---
TOTAL	31	TOTAL	31

For question No. 2, on this ballot, LB/S12.2/279:

"If there should be an impasse in resolving any negative votes or positions resulting from this ballot on proposed ANSI Standard S12.2-199X, draft dated April 1993, then the document should be published for trial and study", the responses were 19 affirmative, from those responding to the ballot with 2 abstentions, and no negative votes.

COPIES OF ALL COMMENTS ARE ATTACHED

- 2 - Letter Ballot S12.2/279

Continuation of results of letter ballot S12.2/279:

AFFIRMATIVE VOTES:

Anderson, R.	Larson-Davis Laboratories
Atack, R.M.	U.S. Army Medical Corps.
Brownson, P.J.	American College of Occupational Medicine
Goodwin, R.	Acoustical Systems, Inc.
Johnson, D.L.	Acoustical Society of America
Lotz, R.	Computer & Business Equipment Manufacturers Association
Marshall, L.	U.S. Dept. of the Navy,
Alternate	BUREAU OF MEDICINE AND SURGERY
Monk, W.	CAOHC
Naunton, R.F.	American Otological Society
Patterson, J.H.	U.S. Army Aeromedical Research Lab.
Alternate	
Pei, H.S.	American Society of Heating and Refrigeration and Air-Conditioning
	National Electrical Manufacturers Association (NEMA)
Rawlings, D.	ALCOA
Roth, S.I.	U.S. Department of the Army,
Schomer, P.D.	Environmental Office
Toothman, E.H.	Fastener Industry Noise Control Research Program
Vendittis, D.	Naval Surface Warfare Center

NEGATIVE VOTES:

Burkard, R.F.	American Speech-Language-Hearing Association
Franks, J.	National Hearing Conservation Association

ABSTENTIONS:

Bovi, A.M.	Industrial Safety Equipment Association, Inc.
Callahan, R.	Power Tool Institute, Inc.

Continuation of results of letter ballot S12.2/279:

NOT RETURNED:

Addington, J.H.
Bohl, C.D.

Chial, M.R.
Erdreich, J.

Konheim, A.
McKinley, R.L.
Michael, L.A.
Alternate
Price, G.R.
Schontal, E.
Wang, S.

Compressed Air and Gas Institute
American Industrial Hygiene
Association
Audio Engineering Society
National Council of Acoustical
Consultants
U.S. Department of Transportation
U.S. Department of the Air Force
American Academy of Otolaryngology
Head and Neck Surgery
U.S. Army Human Engineering Laboratory
Bruel & Kjaer Instruments, Inc.
Air-Conditioning and Refrigeration
Institute

LATE RESPONSE:

Franks, J.
Patterson, J.H.
Alternate

National Hearing Conservation Association
U.S. Army Aeromedical Research Lab.

INDIVIDUAL EXPERTS:

- 1) Individual Experts stating they will participate in the review of the document:

Bartheld, R.G.
Marsh, A.H.
Winzer, G.

Continuation of results of letter ballot S12.2/279:

INDIVIDUAL EXPERTS (continued):

- 2) Individual Experts stating they will not participate in the review of the document:

Baade, P.K.
Johnson, D.L.

- 3) Comments and/or recommendations were received from 1 Individual Experts, as follows:

Bartheld, R.G.	Negative Comments
Marsh, A.H.	Negative Comments

Avril Brenig
Standards Manager

cc: Vice Chair, Standards Committee
Chair and Vice Chair, ASACOS
Chair, Working Group



ACOUSTICAL SOCIETY OF AMERICA

ATTACHMENT I-5

S12/284

OFFICE OF THE
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IMMEDIATE RETURN REQUESTED

LB/S12.2/279

9 July 1993

Return to: Letter Ballot Department
Due date: 20 August 1993

LETTER BALLOT ACCREDITED STANDARDS COMMITTEE ON NOISE, S12

Topic: Approval of proposed standard ANSI S12.2-199X, Criteria for Evaluating Room Noise, draft dated April 1993

Authorized by: D.L. Johnson, Chair S12

Distributed by: A. Brenig, ASA Standards Manager

Reference Document(s):

DOC ATTACHMENT A
LB/S12.2/279

Proposed standard, Criteria for Evaluating Room Noise, draft dated April 1993

ATTACHMENT B

Letter from D.L. Johnson, Chair S12, to A. Brenig, dated 10 May 1993

Background Information:

Working group S12/WG18, Criteria for Room Noise, under chairmanship of R. J. Peppin, assisted Accredited Standards Committee S12, Noise, in the preparation of this proposed standard. The working group membership is listed in the subject document.

Both the Chair of S12, D.L. Johnson, and chair of the preparatory working group, R.J. Peppin, recommend approval of this document, ANSI S12.2-199X, draft dated April 1993, as a proposed ANSI Standard. However, if there should be an impasse in resolving any negative votes or positions, the Chair of S12 recommends that a trial and study document be issued in the interim.

Committee Correspondence
Standards Committee S12, Noise

DATE: May 10, 1993
TO: Avril Brenig and S-12 Membership
FROM: Daniel Johnson
Re: Proposed Standard for Criteria for Evaluating Room Noise

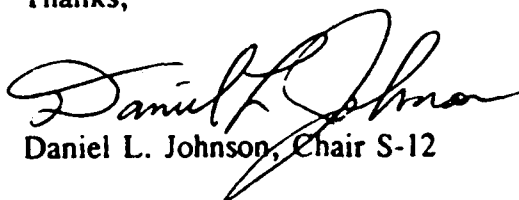
Avril Brenig:

Please ballot this standard as a full standard with a note to the members if they would have any problems with issuing the document as a "trial and study" document if there were an impasse in resolving negative votes.

S-12 Members:

I am encouraging you to support this standard. We should have had such a standard 30 years ago. Rich Peppin and his working group should be commended for bringing this draft to its present state:

Thanks,


Daniel L. Johnson, Chair S-12

REPORT OF S12/WG22

WE ARE HAVING PROBLEMS RESOLVING SOME OF THE PROBLEMS FOUND IN THE WEAPON DIRECTIVITY DATABASE. (SEE ATTACHED MEMORANDUM TO DANIEL JOHNSON.) TO RESOLVE THESE PROBLEMS, MEASUREMENTS WILL BE REQUIRED, FOR WHICH FUNDING IS NEEDED.

N. D. LEWIS, CHAIR
S12/WG22

ENVIRONMENTAL NOISE PROGRAM
BIO-ACOUSTICS DIVISION
U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MD 21010-5422

2 April 1993

MEMORANDUM FOR Daniel L. Johnson, EG & G Special Projects,
Albuquerque Operations, Albuquerque,
NM 87119-9024

SUBJECT: Unexpected delay in completing fifth draft of proposed
standard S12.17-199X

1. References.

a. Fifth Draft, Proposed American National Standard S12.17-199X, Impulse Sound Propagation for Environmental Noise Assessment. (enclosed)

b. Meeting between Dr. Michael White, U.S. Army Construction Engineering Research Laboratory and myself, 31 March 1993.

2. When I submitted the semi-annual to ANSI on 1 March 1993, I expected to have the next draft for ballot completed by mid April. However, there appears to be problems with some of the technical input used in this draft. These are discussed in the following paragraphs.

3. The fourth draft of the proposed standard incorporated the comments and concerns of the negative ballots. I gave this draft to Dr. Paul Schomer for his review since most of the changes were the result of his comments. I also discussed this draft with Dr. White. The fifth draft incorporates the results of Dr. Schomer's review and the some of the discussions with Dr. White.

4. During my meeting with Dr. White, two areas of concerns were discussed. These are the mass correction and the weapon directivity.

a. Dr. White is in the process of developing a new relationship for the mass correction. The new relationship is very similar to the relationship presented in the proposed standard. This work is near completion and the necessary relationships will be available by 1 May.

b. There appears to be a problem with the directivity patterns for the weapons which have a supersonic projectile. It appears that the early work done by USACERL included the ballistic wave with the propellant wave, hence higher directivity corrections in front of the weapon. The later work does not include the ballistic wave. When comparing two weapons, such as

an 105 and 120 mm tank main gun, the results are misleading. We are looking at a different approach to the directivity, i.e., modeling it as a series of cosine terms. If we can reduce the error with this approach, a new directivity procedure should be available by the fall, otherwise, I have no idea when it can be corrected. (This is not a new problem. We at AEHA have been aware of this problem in the BNOISE data base for some time. We reinformed CERL of this problem last month and Dr. White has taken an interest in it and is working toward a solution since it also affects his other projects.)

c. The ballistic wave is not included in the standard. At this time there is insufficient data to establish an empirical relationship for this event.

5. The work on the proposed standard will continue as soon as these concerns are resolved.

NELSON D. LEWIS, Ph.D.
Acoustical Engineer
Master Consultant
Bio-Acoustics Division

encl



National Research Council
Canada

Conseil national de recherches
Canada

Institute for
Microstructural Sciences

Institut des
sciences des microstructures

ATTACHMENT K-1

S12/284

September 1993



To: D.L. Johnson, Chair S12

From: Gilles Daigle

Subject: Draft Synopses of Standards on the measurement and prediction of sound levels

Copy: Chair of S1;
Vice Chairs of S1 and S12;
Any interested S1 and S12 Committee Member, Individual Expert, WG Chair, and
WG Member of S1 and S12

At the S12 meeting during the Ottawa ASA meeting, I was asked to produce a draft synopses of ANSI efforts for the measurement, calculation or prediction of sound pressure levels in air.

I have looked at the ANSI S12.30-1990 - American National Standard Guidelines for the Use of Sound Sower Standards and for the Preparation of Noise Test Codes, as a guide. The details found in ANSI S12.30 is beyond the scope of this draft. I have therefore assembled the following material as a DRAFT and as a summary of my thoughts. In some cases American National Standards already exist while in other cases there is a Working Group preparing a draft Standard.

Committee S1, Acoustics

1) S1/WG2, Attenuation of Sound in the Atmosphere.

Preparation of standards describing recommended procedures to account for the attenuation of sound waves propagating through the atmosphere.

Does this imply attenuation due to molecular absorption alone - more precisely, a Standard to provide a method for calculating the absorption of sound propagating through a still homogeneous atmosphere of humid air of normal composition - and hence aims to revise ANSI S1.26-1978, American National Standard Method for the Calculation of the Absorption of Sound by the Atmosphere.

If not ^{Ottawa, Canada} then this Working Group is in conflict with S1/WG20 and S12/WG31,

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Canada

2) S1/WG4, Measurement of Sound Pressure Levels in Air

This is a revision of S1.13-1971 (R 1986) Methods for the Measurement of Sound Pressure Levels. This draft standard specifies requirements and provides recommendations for the measurement of sound pressure levels in air at a single point in space.

This is a fundamental standard applicable to a wide range of SPL measurements. The draft standard specifies definitions, types of sounds (temporal and frequency characteristics), types of environment, instrumentation for measuring sound pressure level and the fundamentals of measurement procedures and documentation.

All other standards that involve the measurement of sound pressure levels in air should rely on and refer to this basic fundamental draft standard.

3) S1/WG20, Ground Impedance

- i) Measurement of Ground Impedance - to develop a standard describing recommended procedures to characterize and the instrumentation to measure the acoustic properties of a wide variety of natural ground surfaces outdoors
- ii) Attenuation of Sound due to the Ground - to develop a standard describing recommended procedures to account for the attenuation of sound propagating in the presence of the ground.

This first part of the proposed draft standard is therefore aimed at obtaining the impedance (real and imaginary part) of a variety of grounds as a function of frequency. These values can then be used in conjunction with other standards such as ANSI S12.8 - 1987, American National Standard Methods for Determination of Insertion Loss of Outdoor Noise Barriers or ANSI S12.18 - 199x, proposed American National Standard Method for Outdoor Measurement of Sound Pressure Level. Both recommended methods invoke determination of Ground Equivalence by measurement of the specific impedance of the ground. However, it must admit that there are no standard procedures to measure this property.

The second part of the proposed draft standard would be aimed at producing recommended methods to calculate the attenuation of sound by a finite impedance reflecting plane (the ground) in the absence of meteorological effects. The recommended procedures would then be limited to distances less than about 30 m. Usage would be to calculate ground equivalence or to correct sound pressure levels (in particular, third-octave or narrow-band spectra) measured from a specific source on a specific site to the expected SPL from the same source on another site. For example the standard could be used to estimate the weighted sound levels from a heat pump at a distance of 15 feet from published values of sound power in bels.

These recommended methods would then complement ANSI S1.26 - 1978 as a precision method to calculate the attenuation of sound due to the ground. An extension to this second part could be a third part to produce a precision method to calculate the total attenuation of

sound outdoors in a systematic way. It is also possible that the work of S12/WG31 could replace the efforts of S1/WG20 part ii) if the document produced by S12/WG31 turns out to be appropriate.

Committee S12, Noise

1) S12/WG15, Measurement and Evaluation of Outdoor Community Noise

To produce a standard for the measurement of outdoor environmental noise with emphasis on the classification of noise surveys relative to temporal and spatial sampling accuracies achieved.

S12/WG15 has produced ANSI S12.9, American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 1, 2 and 3. The standard quantities and procedures recommended in ANSI S12.9 are an application of the recommended procedures of ANSI S1.13 to the specific cases of sampling environmental noise outdoors. Essentially, ANSI S12.9 samples environmental sound by accepting the environmental and meteorological conditions "as is." The standard therefore provides a statistical sampling of the sound levels of environmental noise from a variety of sources and meteorological conditions.

2) S12/WG 27, Outdoor Measurement of Sound Pressure Level

Develop standardization method for measuring sound pressure levels in the outdoor environment, considering the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence and the effects of variable ground impedance and wind noise.

The draft standard, ANSI S12.18 is another application of ANSI S1.4 to recommend procedures for obtaining sound pressure level measurement that are individually reproducible from a specific source or sources outdoors. The measurements take into account the source height, receiver height, the type of ground, and the local atmospheric conditions. The measurements obtained using the recommended procedures can be used to calculate sound pressure levels at other distances from the source or extrapolated to other environmental or ground conditions. The procedures ensures that measurements from the same source at the same point on different days yeild the same results, or that measurements from the same source at different sites or distances can be corrected and compared reliably.

3) S12/WG31, Predicting Sound Pressure Levels Outdoors

Develop standard method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of noise at a distance from a large variety of sources. The method should be a general engineering procedure that includes the combined effects of: geometrical divergence, atmospheric absorption, hte effects of variable ground impedance, the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical trubulence, reflection from surfaces, as well as propagation through foliage.

Whereas ANSI S1.26 - 1978 is a precision method to calculate the attenuation of sound due to molecular absorption alone, S12/WG31 is trying to achieve a document to recommend engineering procedures to calculate the total attenuation of sound during propagation outdoors. Under certain restrictive conditions and if the procedures recommended by S12/WG31 could be used for a variety of different impedance values (different grounds), then the procedures recommended by S12/WG31 could possibly replace the work of S1/WG20 part ii).

If the work of S1/WG2 is a counter part of Draft International Standard ISO/DIS 9613-2, then S1/WG2 is in direct conflict with S12/WG31.

MICHAEL & ASSOCIATES, INC.

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814-234-7042 (PHONE/FAX)

ATTACHMENT L

October 5, 1993

Committee Correspondence**ANSI Working Group S12/WG33****Evaluation of Communication Ability in Noise While Wearing Hearing Protection****From: Kevin Michael, Michael & Associates****To: Avril Brong, ASA****Paul Michael****Charles Nixon****Richard McKinley****Denise West****Curtis Smith****Tony Bovi****Leonard Marcanocini****Alton Burke****George Gariather****Ed Toothman****Dennis Williams****PLM & Associates, Penn State Univ.****WPAFB****WPAFB****WPAFB****IHCE****IEA, North Health Care****MSHA****U.S. Bureau of Mines****U.S. Army, IRL Aberdeen Proving Ground****FINCRP****U.S. Army, Penn State Univ.**

Our working group did not meet in Denver but we plan to meet at the next ASA meeting in the spring of 1994. We have nearly completed a first draft of the proposed standard. The draft will be circulated well before next spring, allowing us to discuss the draft and suggested modifications at our next meeting. The draft describes a relatively simple method for the hearing conservationist to select appropriate hearing protectors for specific noise environments. The proper hearing protection will provide enough protection to prevent noise-induced hearing loss while maximizing the ability to communicate.

Sincerely,

**Kevin Michael**

S12/284
ATTACHMENT M-1

ISO/TC 43 ACOUSTICS and ISO/TC 43/SC1 NOISE

U.S. TAG Chair: H.E. von Gierke
U.S. TAG Vice Chair: P.D. Schomer

Documents processed by the ASA Standards Secretariat from May 1993 through September 1993

The following documents were received for VOTE AND/OR COMMENT by the U.S. Member Body:

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
R. Lotz	S12	<u>ISO/DIS 10302</u> : Acoustics - Measurement for the measurement of airborne noise emitted by small air-moving devices.
announced to S12 (<u>S12/270</u>) on 27 April 1993. The U.S. position, <u>AFFIRMATIVE WITH COMMENTS</u> , was submitted to ANSI on 30 July 1993, and from ANSI to ISO on 4 August 1993.		
A. Konheim	S12	<u>ISO/DIS 3095</u> : Acoustics - Measurement of noise emitted by railbound vehicles.

announced to S12 (S12/267) on 16 March 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 16 June 1993, and from ANSI to ISO on 21 June 1993.

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
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R.F. Schumacher	S12	<u>ISO/DIS 6798</u> : Acoustics - Test code for the measurement of airborne noise emitted by reciprocating internal combustion engines. Engineering method and survey method.
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announced to S12 (S12/271) on 27 April 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 19 July 1993, and from ANSI to ISO on 23 July 1993.

S.I. Roth	S12	<u>ISO/DIS 11200</u> : Acoustics - Noise emitted by machinery and equipment. Guidelines for the use of basic standards for the determination of emission sound pressure levels at the work station and at other specified positions.
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announced to S12 (S12/272) on 30 April 1993. The U.S. position, NEGATIVE WITH COMMENTS, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

S.I. Roth	S12	<u>ISO/DIS 11201</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Engineering method in an essential free field over a reflecting plane.
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announced to S12 (S12/273) on 30 April 1993. The U.S. position, NEGATIVE WITH COMMENTS, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
S.I. Roth	S12	<u>ISO/DIS 11202</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Survey method in situ.
announced to S12 (<u>S12/274</u>) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH COMMENTS</u> , was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.		
S.I. Roth	S12	<u>ISO/DIS 11203</u> : Acoustics - Noise emitted by machinery and equipment. Determination of emission sound pressure levels at the work station and at other specified positions.
announced to S12 (<u>S12/275</u>) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH COMMENTS</u> , was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.		
S.I. Roth	S12	<u>ISO/DIS 11204</u> : Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Method requiring environmental corrections.
announced to S12 (<u>S12/276</u>) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH COMMENTS</u> , was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.		

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
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S.I. Roth	S12	<u>ISO/DIS 12001</u> : Acoustics - Noise emitted by machinery and equipment. Rules for the drafting and presentation of a noise test code.
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announced to S12 (S12/277) on 30 April 1993. The U.S. position, NEGATIVE WITH COMMENTS, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

R.M. Guernsey	S12	<u>ISO/DIS 11691</u> : Acoustics - Measurements of insertion loss of ducted silencers without flow. Laboratory survey method.
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announced to S12 (S12/266) on 16 March 1993. The U.S. position, ABSTENTION WITHOUT COMMENTS, was submitted to ANSI on 28 July 1993, and from ANSI to ISO on 30 July 1993.

P.C. Shang	S12	<u>ISO/DIS 2923</u> : Measurement of noise on board vessels.
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announced to S12 (S12/282) on 30 June 1993. The U.S. position, ABSTENTION WITHOUT COMMENTS, was submitted to ANSI on 23 September 1993.

D. Nelson	S12	<u>ISO/DIS 11957</u> : Acoustics - Determination of sound insulation performance of cabins, Laboratory and in situ measurements.
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announced to S12 (S12/283) on 26 July 1993. The U.S. position, AFFIRMATIVE WITH EDITORIAL COMMENTS, was submitted to ANSI on 3 September 1993.

DOCUMENTS CIRCULATED AD/HOC

DOCUMENT	TITLE	COORDINATOR(S)	U.S. TAG
<u>ISO/DIS</u> <u>9611.2</u>	Acoustics - Characterization of sources of structure-borne sound with respect to the airborne sound radiation of connected structures - Measurement of velocity at the contact points of machinery when resiliently mounted	A. Kilcullen	S12

sent to A. Kilcullen on an ad hoc basis (S12 Ad-Hoc #2) on 7 June 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 14 July 1993, and from ANSI to ISO on 23 July 1993.

<u>ISO/CD</u> <u>11688-1</u>	Acoustics - Recommended practice for the design of low-noise machinery and equipment. <u>Part 1</u> : Planning	S. Roth	S12
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sent to S. Roth on an ad hoc basis (S12 Ad-Hoc #3) on 11 August 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 13 September 1993.

<u>ISO/CD</u> <u>11690-3</u>	Acoustics - Recommended practice for the design of low-noise workplaces containing machinery. <u>Part 3</u> : Sound propagation and noise prediction in workrooms.	B. Brooks	S12
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sent to B. Brooks on an ad hoc basis (S12 Ad-Hoc #4) on 12 August 1993. The U.S. position, AFFIRMATIVE WITH COMMENTS, was submitted to ANSI on 13 September 1993.

DOCUMENTS CIRCULATED AD/HOC
(continued)

DOCUMENT	TITLE	COORDINATOR(S)	U.S. TAG
<u>ISO 6393:1985</u>	Acoustics - Measurement of airborne noise emitted by earth-moving machinery - Method for determining compliance with limits for exterior noise - Stationery test condition.	L.A. Jennings	S12
<u>ISO 6395:1988</u>	Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test condition.	L.A. Jennings	S12

- a) Both documents were sent to L.A. Jennings on an ad hoc basis (S12 Ad-Hoc #5 & #6) on 12 August. The U.S. position, AFFIRMATIVE, for the work effort was submitted to ANSI on 12 August 1993.
- b) The U.S. position on the two documents, AFFIRMATIVE, was submitted to ANSI on 23 September 1993.

ISO/TC 43/SCI Draft Amendments: ISO 362:1981/DAM 2 ISO 7188:1985/DAM 1	R.F. Schumacher	S12
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These two documents were sent to R.F. Schumacher on an ad hoc basis (S12 Ad-Hoc #7) on 14 September 1993.

OTHER ACTIONS:

- **ISO/TC 43 and**
ISO/TC 43/SC1 Noise

- 1) U.S. response on questions regarding two ISO standards -
ISO 9613-1: 1993 and ISO 9614-1: 1993
-

The U.S. responded to the questionnaires on the two ISO standards noted above, on 23 September 1993.



VOTE ON NEW WORK ITEM PROPOSAL

Date of circulation
1993-06-19

Reference number

Closing date for voting
1993-10-01

ballot paper on
ISO/TC 43/SC 1 N 897

ISO/TC 43 /SC 1
Title

NOISE

Secretariat DS

Circulated to P-members of the committee for vote and to O-members for information, in accordance with 2.3.3 of part 1 of the ISO/IEC Directives

Please send this form, duly completed at all points, to the Secretariat indicated above.
P-members of the technical committee or sub-committee concerned have an obligation to vote.

Title of proposal

Revision of B- and C-weighting and Lin response

First condition for acceptance [2.3.4 a) of part 1 of the ISO/IEC Directives] : a simple majority of the P-members voting are required to have given a positive reply to question 1 below.

Second condition for acceptance [2.3.4 b) of part 1 of the ISO/IEC Directives] : at least five P-members are required to have given a positive reply to question 4 or 5 below.

1 We agree to the addition of the proposed new work item to the programme of work of the committee:

☐ YES ☒ NO. The reasons for our disagreement are given in the annex to this ballot paper

2 We agree to the scope proposed:

☐ YES ☐ NO. We suggest the scope be modified as shown in the annex to this ballot paper

3 We agree to the target date as indicated:

☐ YES ☐ NO. We suggest that the target date be modified as follows:

4 We are prepared to participate in the development of the project (even if voting against), i.e. to make an effective contribution at the preparatory stage, at least by commenting on working drafts:

☐ YES ☐ NO

5 We would agree with direct submission of the draft accompanying the proposal as a

CD ☐ YES ☐ NO

DIS ☐ YES ☐ NO

(Submission as a DIS requires approval by a two-thirds majority of those voting)

6 Standard(s), regulation(s), and other relevant documentation existing in our country, with any remarks concerning their application if necessary, are attached:

☐ YES ☐ NO

If "yes", please give references here:

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.....

P-member voting : ANSI (USA)

Date : 1993-09-22

Signature

Julia Lindsay
Julia Lindsay
for the USA Member Body
ISO/TC 43/SC 1

43/1/N 897(USA)
1993 September

INTERNATIONAL STANDARDS ORGANIZATION

TECHNICAL COMMITTEE 43: ACOUSTICS; SUBCOMMITTEE 1: NOISE

Comments of the United States Member Body on

Document ISO/TC 43/SC 1/N 897

New Work Item Proposal: Revision of B- and C-weighting and Lin response

The United States Member Body votes against and is strongly opposed to the subject proposal from Denmark for a New Work Item to revise the C- and B-frequency weightings and the "Lin" or flat frequency response of a sound level meter and other acoustical measuring instruments. Reasons for our opposition are enumerated below.

- 1 The reasons given by the Danish Member Body in the 1993 May "justification" for the New Work Item (included with the subject Document as ISO/TC 43/SC 1/N 876) are specious, unsupported by any measured data, and inappropriate. The lack of any measured data to substantiate the claims is of particular concern.
- 2 Sound levels are rarely, if ever today, measured with the B-frequency weighting. Hence it is wasteful to devote any time to unnecessary modifications of the obsolete B-weighting.
- 3 Tolerances on the flat (not the "Lin") frequency response are specified by the manufacturer of an instrument in the Instruction Manual. Those tolerances may be controlled at low and high frequencies by the response of the particular microphone that is mounted on the sound level meter, not by the electrical response of an instrument. Developing a requirement from ISO TC 43/SC 1 for specified low-frequency and high-frequency roll-offs of the electrical portion of the manufacturer-specified flat frequency response would negate a common use for the flat frequency-response characteristic of a sound level meter--namely as a wideband amplifier for driving auxiliary devices such as bandpass filter sets, magnetic tape recorders, and other data-analysis and data-storage systems. To preserve that valuable option wherein the flat part of the electrical frequency response is extended into the infrasonic and ultrasonic regions, no change should be mandated by TC 43 to the low- or high-frequency electrical portion of the manufacturer-specified flat frequency response.
- 4 The most-damaging and least-desirable aspect of the proposed New Work Item is to change the low- and high-frequency design-goal response of the long-standardized C-frequency weighting. The Danish "justification" for changing the standard C-weighting should have been accompanied by a numerical table of the proposed changes to the C-weighting and the flat response.
- 5 Tolerances as given in IEC 651:1979 around the design-goal frequency weightings reflect practical tolerances as of the time that Standard was developed over the period from about 1965 to 1975. The tolerances in that Standard did not reflect the capability of electrical elements in the sound level meter as much as they reflected the economic realities of the time regarding the low- and high-frequency response of the various microphones that were available for use with sound level meters. To minimize the cost of a Type 2 instrument, manufacturers offered those instruments with less expensive microphones than were offered for Type 1 instruments. This fact accounts for the ∞ tolerance at low and high frequencies.
- 6 Changing the design-goal electrical characteristics of the standard C-weighting (or, for that matter, the standard A-weighting) would do nothing except increase the cost of instruments as well as the requirement for electrical power from the batteries and the weight of a hand-held instrument if additional battery capacity is included to satisfy the additional requirements. The response of lower-cost microphones will not be changed by deliberations of any Working Group charged with implementing the proposed New Work Item, if accepted. Users of new sound level meters designed to comply with a revised design goal for the C-weighting would observe no (or very small) reduction in the variability of future results obtained with different instruments.

Comments of the U.S. Member Body on ISO/TC 43/SC 1/N 897, 1993 June 19

7 Another major reason for not changing a design-goal frequency weighting is that high-level sounds at infrasonic and ultrasonic frequencies, if present, should be included in a measurement of a frequency-weighted sound level, whether C or A, and not artificially excluded. The ability of an instrument to measure those sound signals is not so much a function of the design-goal frequency weighting as it is the microphone's response and directivity (and the instrument's accuracy class) and, for high-frequency sounds, the way the instrument is used.

8 A final, and almost over-riding, reason not to change the long-standardized design-goals for the C-frequency weighting (ignoring the obsolete B-weighting) is that measurements obtained with future-design sound level meters and equivalent instruments, that incorporate a frequency-weighting characteristic that is different from the design-goal frequency weighting characteristic incorporated in previous instruments, would produce C-weighted sound pressure level measurements that are not like those previously obtained and which may have been the basis for acceptability criteria such as the difference between a C-weighted and an A-weighted sound pressure level or a C-weighted sound exposure level.

9 The U.S. Member Body strongly believes that the best way to attack the problem of variability in measured results is to examine the practical tolerances that are required today for various current and future implementations of a sound level meter and equivalent acoustical instruments, not by changing the design goals that have served so well for so many years. This examination is underway as an active project under Technical Committee 29, Electroacoustics, of the International Electrotechnical Commission. We urge ISO Technical Committee 43 not to accept the New Work Item proposed in ISO/TC 43/SC 1/N 897.

8 September 1993

ADDITIONAL U.S. COMMENTS ON ISO/TC 43/SC1 N 897

10. C-weighting is used by regulation in the United States to assess large-amplitude impulse sound and other countries such as Germany have similar laws and regulations in development. These regulations depend on the present low-frequency roll-off of C-weighting in the 5 to 30 Hz range. Thus, the United States and other countries with similar laws and regulations would require meters with two "C" weightings if this amendment were to be effected. This situation would be unacceptable.